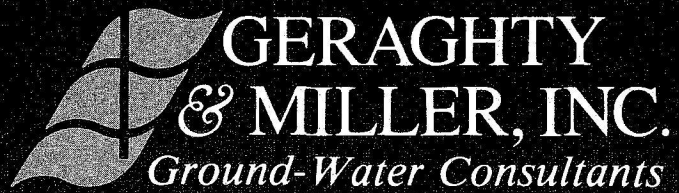


**PROPOSED SCOPE OF WORK FOR  
HYDROGEOLOGICAL INVESTIGATION  
DOANE LAKE AREA  
PORTLAND, OREGON**



*SCOPE OF WORK  
HYDROGEOLOGIC INVESTIGATION  
DOANE LAKE AREA*

**SCOPE OF WORK**

The following scope of work is designed to address hydrogeologic data gaps identified in Geraghty & Miller, Inc.'s report entitled "Phase I Hydrogeological Investigation: Assessment of Existing Conditions", dated November 1, 1989 (the Report); the Oregon Department of Environmental Quality's (ODEQ's) comments in response to the Report as set out in Ms. Sandra Anderson's November 9, 1989 letter to the Doane Lake Industrial Group and Geraghty & Miller; the U.S. Environmental Protection Agency's (EPA's) comments in response to the Report as set out in Mr. David Tetta's November 8, 1989 letter to Ms. Sandra Anderson; Geraghty & Miller and the Doane Lake Industrial Group's comments in response to ODEQ and EPA as set out in Geraghty & Miller's November 17, 1989 and December 1, 1989 letters to Ms. Sandra Anderson; and ODEQ's oral comments presented during the course of meetings held to discuss the Report. The objectives of the proposed hydrogeological investigation in the Doane Lake Area are to determine hydrologic conditions in the vicinity of the Gould Superfund site, determine the zone of influence of potential remedial activities, and determine the impact that ground-water quality in the Doane Lake Area could have on potential Gould site remedies.

Work Plan Preparation

A detailed work plan describing the activities outlined below under Field Activities and Reporting Activities will be submitted to the Oregon Department of Environmental Quality (ODEQ) for approval, within sixty (60) days of issuance of the Order on Consent. The work plan will be prepared in accordance with guidelines established in "Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA", EPA/540/G-87/004 (OSWER Directive 9355.3-01), 1988, and OAR 340-122-080. The work plan will include: a brief summary of conclusions from Geraghty & Miller's report of existing conditions; a detailed account of proposed investigative activities to include drilling methods, monitoring well construction details, well development, sampling procedures, and pumping test procedures; a schedule for all proposed activities and submittals; and a description of qualifications of personnel to be involved in the project. Appendices to the work plan will include a Sampling and Analysis Plan and Health and Safety Plan.

All sampling and analytical procedures will be established prior to initiating the investigation in a sampling and analysis plan (SAP). The purpose of the SAP is to establish routine procedures for collecting and analyzing data to ensure that data obtained during the investigation are reliable. The SAP will be composed of a field sampling plan (FSP) and a quality assurance program plan (QAPP), and will include a discussion of collection methods, quality control procedures, sample containers, chain-of-custody procedures, analytical methods, and detection level goals. The SAP will be prepared in accordance with the following guidance documents: "Data Quality Objectives for Remedial Response Activities", EPA/540/G-87/004f (OSWER Directive 9355.0-7B), March, 1987; "Test Methods for Evaluating Solid Waste", SW-846; "A Compendium of Superfund Field Operations Methods", EPA/540/P-87/001 (OSWER Directive 9355.0-14), December, 1987; and

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"Guidelines and Specifications for Preparing Quality Assurance Program Plans", QAMS-004/80, 1980.

A site specific health and safety plan will be prepared for review by all field personnel prior to conducting any on-site field work. The plan will describe known hazards in the area and recommend the level of protective clothing and equipment to be used by field technicians. Equipment and personal decontamination procedures will be described in the health and safety plan as well. Local medical, fire and enforcement agency numbers and addresses will be included for quick referral during an emergency situation.

Field Activities

The following field activities will be performed in order to obtain data which are necessary to meet the objectives of the proposed investigation.

- Install eleven new monitoring wells in the Doane Lake Area. Three of the new wells will be installed down gradient from the Gould site near the Willamette River and will be completed as shallow, intermediate and deep wells (W-19 S, I and D). Another triple completion well nest (W-18 S, I and D) will be installed up gradient of the Rhône-Poulenc property near NW St Helens Road. Four intermediate wells will be installed in the Doane Lake Area. Two of the wells will serve as pumping wells and be located near monitoring well sites W-7 (GM-1 I) and W-2 (GM-2 I). Of the remaining two intermediate wells one (W-17 I) will be installed on the southwest side of the American Steel property and the other (MW-3 I) will be installed near MW-3 S on the Wacker property. One deep well (W-7 D) will be installed near W-7. All of the wells will be installed in compliance with ODEQ's "Guidelines for Monitoring Well Design, Installation, Testing, Decommissioning and Record Keeping". Refer to Figure 1 for proposed well locations.
- Resurvey all new and existing monitoring well tops in the Doane Lake Area to tie the well network into a common datum.
- Collect water-level measurements from all of the monitoring wells and surface water bodies in the Study Area on a monthly basis for six months.
- Collect continuous ground-water level data in two of the wells in the south Doane Lake Area by installing continuous water-level recorders. The recorders will remain in place for one month.
- Conduct slug tests in the newly installed wells, to integrate hydraulic data from the new wells with the existing data base.